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## **APPENDIX B: SAFETY**

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## **APPENDIX B: SAFETY OVERVIEW**

The most comprehensive safety review conducted to date on (-)-HCA, is a study by the Burdock group published in Food and Chemical Toxicology in 2004. This study was used by InterHealth USA to achieve self Affirmed GRAS for their Potassium / Calcium salt of (-)-HCA known by the brand name SuperCitriMax®.

The salient conclusions of this study are:

- i. Dried fruit rind of *Garcinia Cambogia* (containing 10-30%(-)-HCA) has been used for centuries throughout Southeast Asia as a food preservative, flavouring agent and carminative
- ii. That a 50% Calcium Salt of (-)-HCA has a low acute oral toxicity
- iii. That the average administration of 2500mg/kg/day of (-)-HCA for a period of 90 days caused a significant decrease in body weight and reduction in feed consumption without any adverse effects
- iv. That the structure, mechanism of action, long history of use of (-)-HCA, and other toxicity studies indicate that (-)-HCA is unlikely to cause reproductive or developmental effects
- v. In several, placebo-controlled, double blind trials employing up to 2800 mg/day (-)-HCA, no treatment-related adverse effects were reported. This level of supplementation is considered to be safe in humans.

In 2003, researchers at Creighton University conducted acute oral toxicity, acute dermal toxicity, primary dermal irritation and primary eye irritation in animals using a (-)-HCA extract. Results of this study indicated that the LD50 of HCA-SX (a Potassium / Calcium salt of 60% (-)-HCA extract) is greater than 5,000 mg/kg when administered once orally via gastric intubation to fasted male and female Albino rats. No gross toxicological findings were observed under the experimental conditions.

In 2002, the same researchers also conducted a chronic safety study of (-)-HCA. The conclusion of this study was that (-)-HCA supplementation did not alter hepatic and testicular lipid peroxidation or DNA fragmentation. The study noted that feed intake was significantly reduced in (-)-HCA supplemented rats, demonstrating appetite suppression.

Previous toxicity tests have been conducted to verify the absence of possible side effects or acute/chronic toxicity of the (-)-HCA isolate. The results showed that the acute LD50 (Lethal dose for 50% of the animals tested) was greater than 2000 mg/kg for intraperitoneal administration and greater than 4000 mg/kg for oral administration. Researchers at Hoffmann LaRoche achieved very similar results using simple citrate and considered the two compounds almost identical in safety. Acute oral toxicity studies performed at Wll Research Laboratories, Ashland, OH, showed that 5000 mg/kg of Citrimax (brand leader in (-)-HCA products) resulted in no toxicity or deaths in rats. This is equivalent to 375 grams, or 250 times the recommended dosage of 1.5grams/day consumed by an average size human. The Merck Index lists the LD50 of citrate used intraperitoneally as 975 mg/kg, which would indicate that (-)-HCA is actually safer than citrate.

CitriMax® is a Calcium Salt of (-)HCA containing 50% (-)HCA.

Based on an average size human of 75Kg

**A 75Kg Person would have to consume 535 bottles of Coolwater Trim per day, to reach this LD50 amount of (-)HCA, or ingest at least 267.5 litres of Coolwater Trim per day!**



**COOLWATER TRIM™**  
**75 DAY PRE-MARKET NOTIFICATION**

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**SAFETY THE RELEVANT POINTS**

1. (-)-HCA has a long history of use without any reports of adverse effects.
2. Shannon Minerals Ltd. has sold more than 6 million bottles of Coolwater Trim containing Sabinsa Citrin K (-)-HCA, with NO reports of adverse effects, either to the company or to the UK Adverse Drug Reaction reporting scheme. (Yellow Card Scheme).
3. No adverse events have been reported to the Irish Food Safety Authority regarding (-)-HCA.
4. No adverse reaction reports regarding (-)-HCA or (-)HCA in combination with other substances have been reported to the UK's Yellow Card scheme going back to 1964.
5. No adverse event reports regarding (-)-HCA have been filed with the FDA AERS (Adverse Event Reporting System) database.
6. At least 5 billion doses of (-)-HCA have been sold in the last 10 years worldwide with no adverse reaction reports.
7. A Potassium / Calcium Salt of (-)-HCA has been Self Affirmed GRAS, however, the studies on which the Self Affirmed GRAS status were based, are relevant to other salts of (-)-HCA because the supporting studies were based on 3 different salts of (-)-HCA.
8. 15 human clinical studies involving 914 subjects examined the effects of (-)-HCA. These studies demonstrate that (-)-HCA did not cause adverse effects and was well-tolerated at daily doses up to 2800mg per day.
9. Coolwater Trim will be labelled for use with an extra 25% Safety Margin less than the recognized safe dose, as determined by the Burdock Group (Food and Chemical Toxicology 42 (2004) 1513-1529) Burdock Study. 2100 mg versus 2800 mg.
10. Garcinia Cambogia, the main source of naturally- occurring (-)-HCA, has a long history of common use as a flavouring, preservative and herbal tonic. A typical daily dose of (-)-HCA in humans for the purpose of suppressing appetite is roughly the equivalent to the rind of half a fruit, which is not out of proportion of its common use.
11. Reports of toxicity do not appear in the literature regarding the traditional use of the extract, so it is highly unlikely that there is any danger from regular consumption.

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**CAUTIONARY STATEMENTS**

Despite its inherent safety, there are individuals who should not use (-)HCA, just as they should not use any other diet product. (-)HCA has been shown to influence the body's own production of cholesterol, and therefore it may influence indirectly the production of sterols. The hormones made from sterols include oestrogen, progesterone, testosterone and so forth. For the great majority of Americans, the diet is so rich in fats and calories in general that a lack of building blocks for fat-dependent hormones within the body is simply not an issue. Nevertheless, some instances do require caution.

Pregnancy is a time of extreme sensitivity to steroid hormones, and therefore products, which contain (-)HCA, should not be used during pregnancy. (-)HCA should be avoided during lactation. Similarly, (-)HCA should not be given in large amounts or for extended periods to young children. Although long human experience with fruit sources of (-)HCA does not indicate any danger to these groups, it must be remembered that fruit sources consist almost totally of the less active lactone of (-)HCA

***Our Label will give the following caution statement:***

***CAUTION: This product should be avoided during pregnancy, lactation and by children. Recommended usage of no more than 3 bottles daily.***

***Our daily recommended level is 25% less than the safe level as determined by the Burdock Group (Food and Chemical Toxicology 42 (2004) 1513 – 1529) and just 1.2% of the No Observable Adverse Effect Level. (NOAEL)***